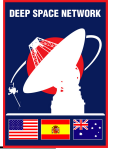


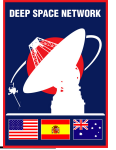
2010 Week 39-52 Downtimes and Non-Standard Maintenance

DSN Schedule Process Owner, DSN Downtime Planning
May 14, 2010



Purpose

- Additional details about the remaining planned non-standard maintenance and downtimes in 2010 is provided
 - Initial information about all of these activities was provided in the initial request for comment on March 1, 2010 and in the March 2010 JURAP
 - Some of the downtimes have changed since then to reflect additional analysis
 - These dates are now baselined and planning is starting; however, we are providing additional details to assist in the refined planning of specific dates for each activity since some flexibility in the date, within the week, may still be available to accommodate specific events
- Intent
 - Allow projects *final* opportunity to identify any critical events or other significant concerns that will preclude the DSN from performing these activities on the planned dates
 - Provide information about existing flexibility to support any final negotiations on these dates
 - *Establish baseline for change control of downtimes*

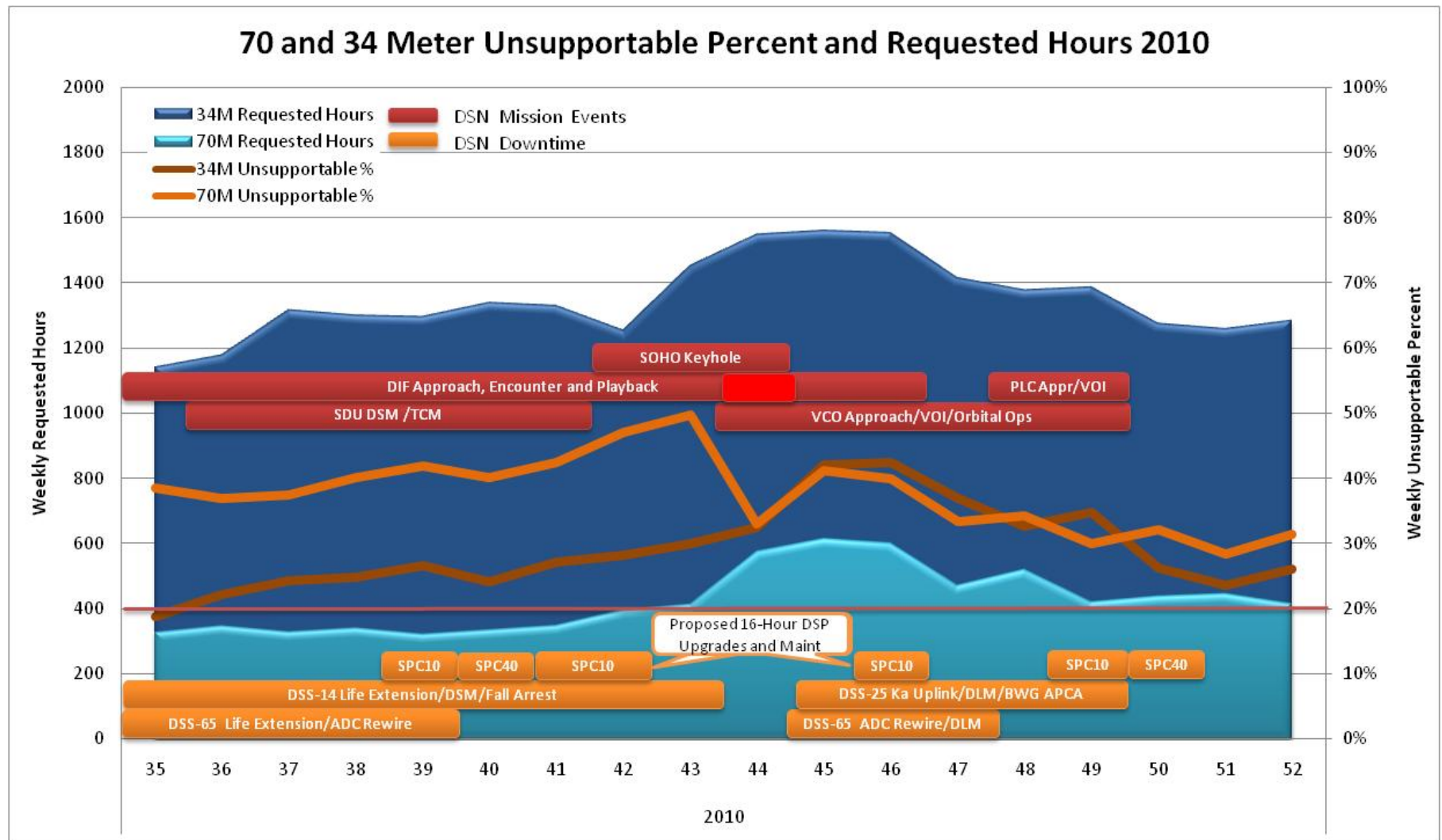
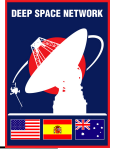


Deadlines

- DSN will consider changing any of the identified activities if significant impacts are identified, in writing to Julia Bell, **by May 27**
- **After May 27, these dates will be final**
 - **No additional significant changes will be considered during the mid-range scheduling activity** with the following exception
 - DSN will consider a 1-2 hour change in the start/end times for the specified days on which the maintenance is planned
- If a project wants a change *to a different day of the week (only – changes to different weeks will not be considered)*, **for one of the single day maintenance activities**, they must make a request, to the Schedule Process Owner, in writing, no less than two weeks before requirements are due for that week in the mid-range process
 - The schedulers are aware of the development schedule that defines these dates
 - DSN will ONLY consider changes if the activity can ONLY be physically supported via that complex and represents a critical event (e.g., some critical observation or activity that can only be supported by that complex, on that day)
 - The project will be required to explain why this event was not identified in the current comment period. If the project was aware of the activity but did not provide this information during the comment period, the request may be denied
- **For activities that span or occur on multiple days**, no changes will be considered after the comment period is over
- In the event the DSN requires a change in the dates, that change will be provided for project review before a new date is baselined



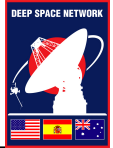
2010 Supportability, Major Events and Downtime



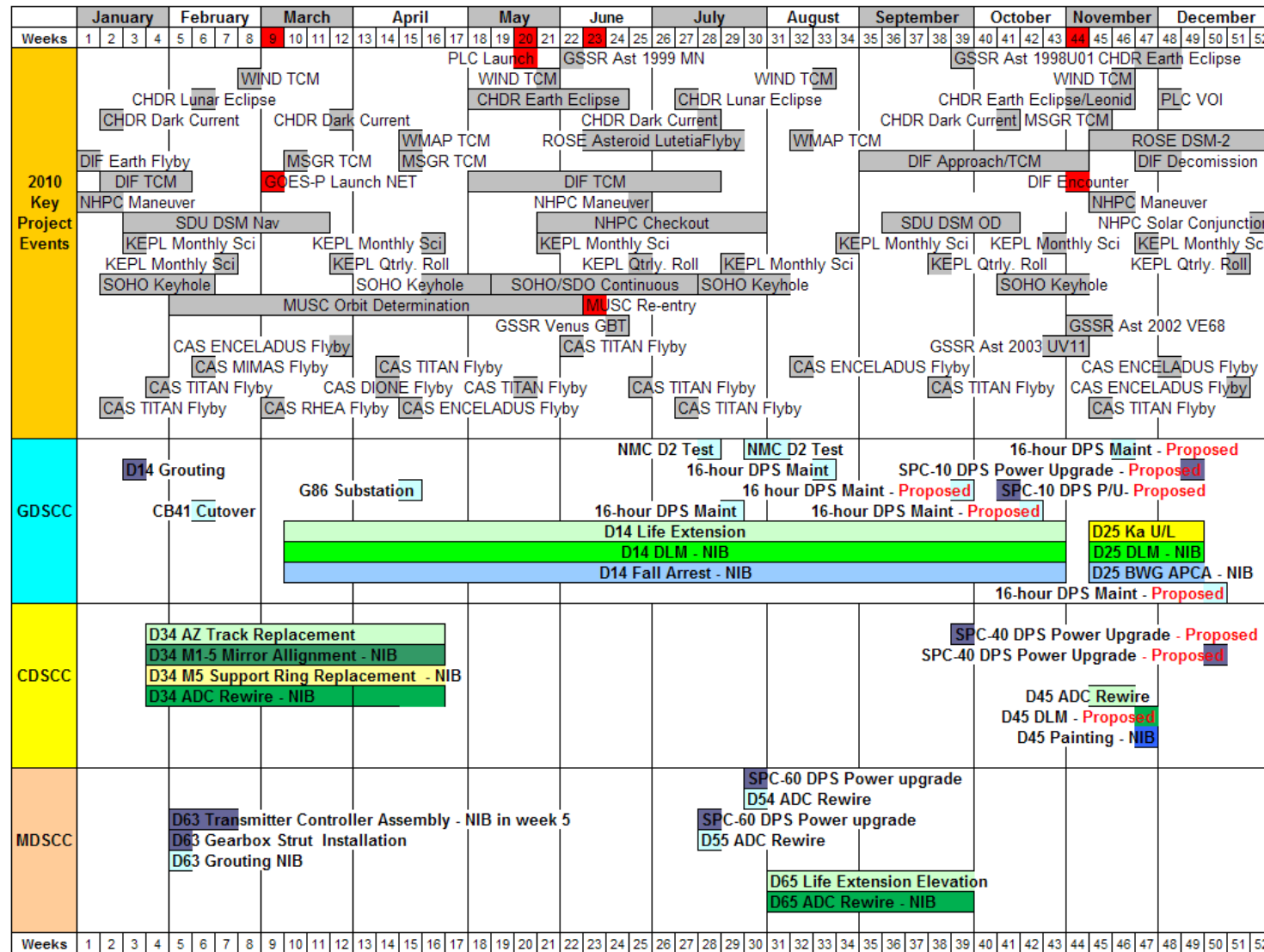
May 14 2010

2010 Future Downtimes

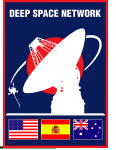
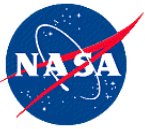
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2010 Downtimes Proposal



Revised: May 14, 2010

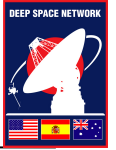


Key Project Events – Weeks 39-52

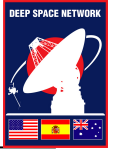
- Weeks 35 – 44 DIF Approach/TCM
- Weeks 36 – 41 SDU DSM OD
- Week 38 KEPL Qtrly Roll
- Week 41 CHDR Dark Current
- Weeks 41 – 44 SOHO Keyhole
- Week 43 KEPL Monthly Sci
- Week 44 DIF Encounter
- Weeks 44 – 46 CHDR Earth Eclipse/Leonid
- Week 45 MSGR TCM
- Weeks 45 – 46 NHPC Maneuver
- Weeks 45 – 52 ROSE DSM2
- Week 46 WIND TCM
- Week 47 KEPL Monthly Sci
- Weeks 47 – 48 DIF Decommission
- Weeks 47 – 48 CHDR Earth Eclipse
- Week 48 PLC VOI
- Week 51 KEPL Qtrly Roll
- Week 52 NHPC Solar Conjunction



SPC-10 DPS Maintenance

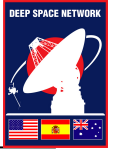


- Purpose: Preparations and support for SPC-10 Power Upgrade late in 2010
- Request: One activity approximately once per month, 16 hour total complex downtime
- Nominal Requirement: Single day, 6AM – 10 PM Pacific
- Flexibility:
 - Any day Monday through Friday of the specified Week
 - 1-2 hours flexibility at the start/end
- Comments:
 - Because power is removed, significant daylight time is required
 - DSN can consider moving some of these one week earlier or later; however, since there is a (loose) timing relationship between them, and an even stronger timing relationship between these and other maintenance activities, that is not preferred. However, projects should suggest alternate weeks if there is a significant concern with the proposed weeks *during this comment period*



SPC-10 DPS Maintenance

WK	Baselined Date UTC	Moved since last JURAP	Events potentially impacted by this date (but supportable by other assets)
39	DOY 274 1300-0500	X	SDU DSM OD (DOY 249-290) DIF Approach TCM (DOY 242-304) SPC-10 DPS Maintenance is scheduled in week 39 (six weeks after week 33 DPS maintenance) due to DIF needing several DDORS in weeks 34 – 38; the first available opportunity without interfering with DIF's DDORS was week 39
42	DOY 291 1300-0500		SOHO Keyhole, DIF Approach TCM
46	DOY 319 1400-0600	X	NHPC Mnvr, ROSE DSM2, CHDR Earth Eclipse WIND TCM (DOY 323)
50	DOY 349 1400-0600		ROSE DSM2 – occurs in the same week as SPC-40 Power Upgrade in week 50 but on a different day

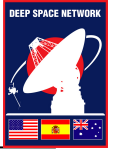


SPC-10 Power Upgrade

- **Purpose:** For testing and acceptance testing of the new Goldstone power generation switchgear, power distribution switchgear and site wide UPS that are currently being implemented
- **Request:** 12 hour complex-wide downtime on each of four days, week 41 and week 49
- **Nominal Requirement:** Daylight hours, 6AM – 6PM Monday, Tuesday, Thursday, Friday, 12 hour blocks each day.
 - Wk 41: DOY 284, 285, 287, 288 and Wk 49: DOY 340, 341, 343, 344
- **Flexibility**
 - 1-2 hours flexibility at the start/end
 - Planning for this activity will start three months in advance – even newly identified important events may be denied if identified after that time
 - Days of the week identified on this requirement cannot be changed
- **Comments**
 - Because power is removed, significant daylight time is required



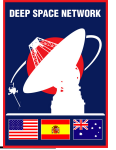
SPC-10 Power Upgrade



WK	Baselined Date UTC	Moved since last JURAP	Events potentially impacted by this date (but supportable by other assets)
41	DOY 284 DOY 285 DOY 287 DOY 288 1300 – 0100	X	SDU DSM OD SOHO Keyhole CHDR Dark Current DIF Approach/TCM 14 (8hr) tracks (0800 – 1800), plus 2 DDORs at 10, 40, 60. DDOR on Goldstone-Madrid and Goldstone-Canberra baseline. Views (from SPS): DSS-14 / 0740-1901 DSS-43/1425-0055 DSS-63/0010-1130 This leaves 3 full days of the week (Wed,Sat,Sun) to cover DDORs. However, DDORs can be done with narrower schedules any day of the week.
49	DOY 340 DOY 341 DOY 343 DOY 344 1400 – 0200	X	ROSE DSM2



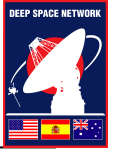
SPC-40 Power Upgrade



- Purpose: For testing and acceptance testing of the new power generation switchgear, power distribution switchgear and site wide UPS that are currently being implemented
- Request: One 14-hour downtime in each month of September and December
- Nominal Requirement: Single day, 6AM – 8PM
- Flexibility:
 - Any day Monday through Friday of the specified Week
 - 1-2 hours flexibility at the start/end
- Comments:
 - Because power is removed, significant daylight time is required
 - DSN can consider moving these one week earlier or later; however, since there is a (loose) timing relationship between them, and an even stronger timing relationship between these and other maintenance activities, that is not preferred. However, projects should suggest alternate weeks if there is a significant concern with the proposed weeks *during this comment period*



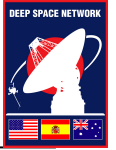
SPC-40 Power Upgrade



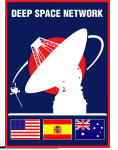
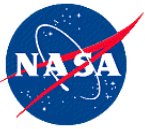
WK	Baselined Date UTC	Moved since last JURAP	Events potentially impacted by this date (but supportable by other assets)
39	DOY 270 2000 – 1000	X	DIF Approach/TCM, SDU DSM OD
50	DOY 347 1900 – 0900	X	ROSE DSM2



DSS-45 Antenna Drive Cabinet Rewire/Painting /DLM



- Purpose:
 - Antenna Drive Cabinet (ADC): An update to the servo to eliminate potential fault modes that can trip the drive amplifiers. Basically electrical upgrades to the ADC
 - Painting: To remove the current paint that is peeling and apply new paint that will continue solar obscuration that is required and to protect the aluminum reflector panels
 - DLM: For other mechanical tasks that need to be performed during downtimes, such as replacing lubricants, aligning drive system components, etc.
- Request: 19 days of station downtime in weeks 45 – 47 (DOY 312 – 330)
- Nominal Requirement: (specific times defined on next slide)
 - ADC: 12 consecutive days – continuous downtime (DOY 312-323)
 - DOY 324 and 325 available for tracking all day
 - DLM and Painting will be concurrent: 5 days of daylight hours M-F
 - Night tracking available during DLM and Painting
 - Preference is to have the work done on consecutive weeks



DSS-45 Antenna Cabinet Rewire /Painting /DLM

- **Flexibility:**
 - May be split into non-consecutive weeks, provided the total time required for each of the two activities is retained
 - 12 days for ADC Rewire; one week for painting/DLM
 - For the daylight hours there is 1-2 hours of flexibility start/end
- **Baseline Dates**
DOY 312 – DOY 330

WK	Baselined Date UTC	Tracking available	Moved since last JURAP	Events potentially impacted by this date (but supportable by other assets)
45/46	DOY 312 2100 UTC – DOY 324 0700, continuous ADC Rewire	Not in the dates specified to the left. Tracking is available from DOY 324 0700- DOY 325 2100, continuous	X	Week 45: CHDR Earth Eclipse/Leonid, MSGR TCM, NHPC Maneuver, Rose DSM2 Week 46: CHDR Earth Eclipse/ Leonid, DIF Decommission, NHPC Maneuver, ROSE DSM-2, WIND TCM
47	DOY 326, 327 ,328, 329, 330 2100 – 0700 each day DLM/Painting	DOY 326 – 330 after 0700 until 2100	X	CHDR Earth Eclipse, DIF Decommission, KEPLER Monthly Sci, ROSE DSM2